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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,272	09/10/2003	Jin-Hee Kim	1567.1054	4031

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EXAMINER

WEINER, LAURA S

ART UNIT PAPER NUMBER

1745

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/658,272	Applicant(s) KIM ET AL.	
	Examiner Laura S. Weiner	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.  
 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-48 is/are pending in the application.  
     4a) Of the above claim(s) 13-20 and 22-48 is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-12 and 21 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9-03; 3-05</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-20 in the reply filed on 8-18-06 is acknowledged. The election of species of additive of Formula (1), (bisphenol A) where R1 and R2 are hydroxyl groups and R3, R3 are methyl groups is acknowledged. Group II, claim 21 has also been examined. The traversal is on the ground(s) that Group I is very similar to Groups III, IV and V. This is not found persuasive because Inventions I-II, claims 1-21, drawn to an electrolyte comprising a lithium salt, an organic solvent and an additive, classified in class 429, subclass 330 and does not have a search in 429/231.1 whereas Invention III, claims '22-38, drawn to a lithium battery comprising a positive electrode which includes one of lithium-nickel-based and a lithium-nickel-manganese-based oxide, a negative electrode, an electrolyte comprising an additive, classified in class 429, subclass 231.1; Invention IV, claims 39-44, drawn to an electrolyte comprising a lithium salt, an organic solvent comprising a carbonate and an aromatic hydrocarbon solvent, at least one additive and an organic sulfone-based compound, classified in class 429, subclass 332 and Invention V, claims 45-48, drawn to a lithium secondary battery comprising a positive electrode, a negative electrode, an electrolyte comprising a lithium salt, an organic solvent, an additive and an organic sulfone-based compound, classified in class 429, subclass 215.

Inventions I and IV are unrelated because Invention IV requires the electrolyte to comprise a carbonate and an aromatic hydrocarbon solvent and an organic sulfone-based compound that is not required in Invention I.

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Inventions I and III, V are related as mutually exclusive species in an intermediate-final product relationship. In the instant case, the intermediate product is deemed to be useful as an electrolyte for a capacitor.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 13-20, 22-48 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 8-18-06.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-12, 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Noh et al. (US 2004/0197667).

Noh et al. teaches on pages 8-9, claims 1, 27 and 28, an electrolyte of a lithium secondary battery comprising lithium salts, an organic solvent and further comprising a swelling-inhibiting additive such as a bisphenol. Noh et al. teaches on

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page 4, {0056}, that swelling-inhibiting additives include bisphenol, etc. and the like and can be used in an amount of 0.01- 10 wt%, preferably 0.01-6 wt%. Noh et al. teaches on page 8, claims 7-8, that the lithium salt can be LiPF<sub>6</sub>, LiBF<sub>4</sub>, etc. and can be used in a concentration ranging from 0.6 to 2.0 M. Noh et al. teaches on page 10, claim 43 that the mixed solvent can be GBL/EC/EMC/DMC. Noh et al. teaches on page 1, [0007-0010], that because lithium reacts with carbon negative electrode to produce Li<sub>2</sub>CO<sub>3</sub>, LiO and LiOH, thus forming a SEI interface. The organic SEI film formed during the initial charge not only prevents the reaction between the lithium ions and the carbon negative electrode during charging and discharging, but also acts an ion tunnel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Laura S Weiner  
Primary Examiner  
Art Unit 1745

September 21, 2006